

Solid State Transmitters for Water Vapor and Ozone DIAL Systems,  
Phase I

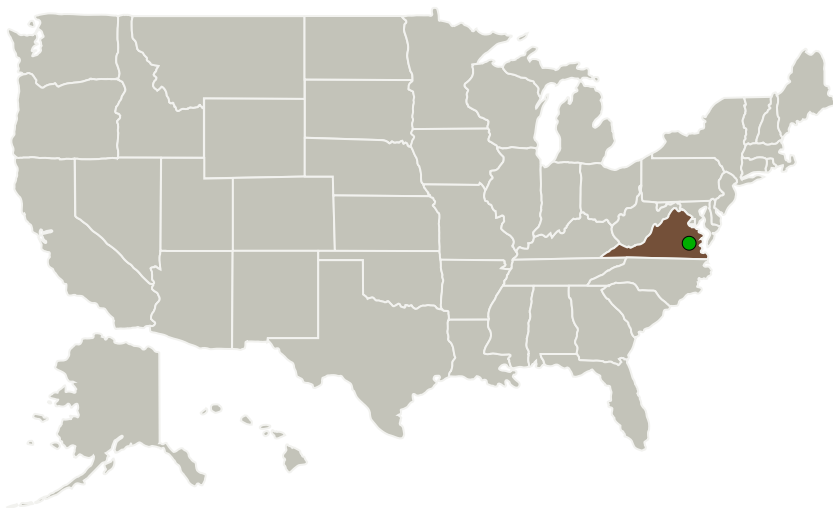
Completed Technology Project (2013 - 2013)



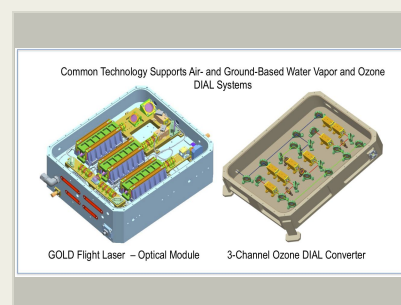
## Project Introduction

We have developed a common architecture for laser transmitters that address requirements for water vapor as well as ground and airborne ozone lidar systems. Our innovative approach to these requirements has the advantages of reducing size, weight and power (SWaP) as well as hardware cost for all of the applications envisioned. Under this Phase I SBIR program Fibertek proposes to demonstrate operation of laser systems at wavelengths required for both water vapor and ozone DIAL systems and power scaling to desired levels. In the Phase II follow-on, Fibertek will build and deliver laser transmitters and frequency converters designed to meet NASA requirements for both water vapor and ozone lidar systems. The use common technology for the two DIAL applications provides NASA a lower cost and risk path to development of next-generation DIAL systems sought under this select SBIR opportunity.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Fibertek, Inc.	Lead Organization	Industry	Herndon, Virginia
● Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia

Solid State Transmitters for  
Water Vapor and Ozone DIAL  
Systems

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# Solid State Transmitters for Water Vapor and Ozone DIAL Systems, Phase I

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## Primary U.S. Work Locations

Virginia

## Project Transitions

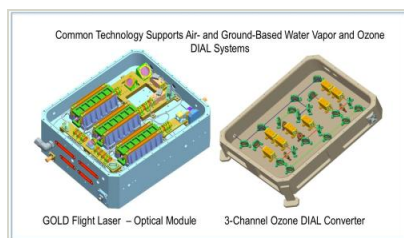
**May 2013:** Project Start

**November 2013:** Closed out

### Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/140378>)

## Images



## Project Image

Solid State Transmitters for Water Vapor and Ozone DIAL Systems  
(<https://techport.nasa.gov/image/132957>)

## Organizational Responsibility

### Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

### Lead Organization:

Fibertek, Inc.

### Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

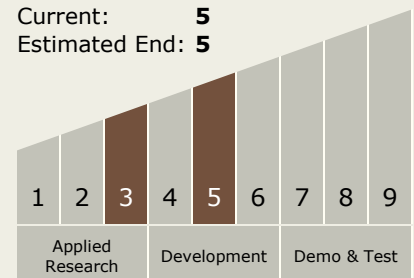
Carlos Torrez

### Principal Investigator:

Ti Chuang

## Technology Maturity (TRL)

Start: 3  
Current: 5  
Estimated End: 5



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## Technology Areas

### Primary:

- TX08 Sensors and Instruments
  - └ TX08.1 Remote Sensing Instruments/Sensors
    - └ TX08.1.5 Lasers

## Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System